

west virginia department of environmental protection

Office of Oil and Gas 601 57th Street SE Charleston, WV 25304 (304) 926-0450 (304) 926-0452 fax Earl Ray Tomblin, Governor Randy C. Huffman, Cabinet Secretary www.dep.wv.gov

December 04, 2013

WELL WORK PERMIT Secondary Recovery Well

This permit, API Well Number: 47-10302648, issued to HG ENERGY, LLC, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.

James Martin

Chief

Operator's Well No: T. J. HIGGINBOTHAM 305

Farm Name: HG ENERGY, LLC

API Well Number: 47-10302648

Permit Type: Secondary Recovery Well

Date Issued: 12/04/2013

Promoting a healthy environment.

PERMIT CONDITIONS

West Virginia Code § 22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

- 1. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6-20, which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
- 2. Pursuant to 35 CSR § 4-19.1.a, at the request of the surface owner all water wells or springs within 1000 feet of the proposed well that are actually utilized for human consumption, domestic animals or other general use shall be sampled and analyzed.
- 3. Pursuant to 35 CSR § 4-19.1.c, if the operator is unable to sample and analyze any water well or spring within one thousand (1,000) feet of the permitted well location, the Office of Oil and Gas requires the operator to sample, at a minimum, one water well or spring located between one thousand (1,000) feet and two thousand (2,000) feet of the permitted well location.
- 4. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
- 5. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
- 6. During the surface casing and cementing process, in the event cement does not return to the surface, or any other casing string that is permitted to circulate cement to the surface and does not return to the surface, the oil and gas inspector shall be notified within twenty-four (24) hours.
- 7. Well work activities shall not constitute a hazard to the safety of persons.
- 8. If well work related activities require the use of water obtained by withdrawals from waters of this state in amounts that exceed two hundred ten thousand gallons during any thirty day period, the operator is required to consult, and adhere to, the guidance provided by DEP's Water Withdrawal Guidance Tool prior to any water withdrawals.

WW-3B 10/07

WELL TYPE:



1) Date	October 21, 2013						
2) Operator's Well	No.	Г	. J. Higgir	nboth	am No. 305		
3) API Well No.	47	-	103	-	2648		
(A 	State		County		Permit		
4) UIC Permit No.		τ	JIC2R1030	04AP			

STATE OF WEST VIRGINIA NOTICE OF LIQUID INJECTION OR WASTE DISPOSAL WELL WORK PERMIT APPLICATION FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

5)	WELL TYPE:		Liquid	l Injection	X		Gas Injec	ction (not s	torage)	Waste:	Disposal		
6)	LOCATION:		Elevation	977				Watershed	Little	– Fishing Creek			
		Distric	t	Center	01	Cou		Vetzel 10		Quadrangle	E	ig Run 7.	5' 254
7)	WELL OPER	ATOR:	HG Ener	gy, LLC		4944979	948 8) DESIGNA	TED AGENT	 ': Mi	ke Kirso	h	
				ont Road							60 Dupo		
			Parkersh	ourg, WV 2	26101							rg, WV 26	3101
9)	OIL & GAS II	SPECT	OR TO BE	NOTIFIE	D:		1	0) DRILLII	NG CONTRAC	CTOR:			
			Derek H	-					Nam	e To Be Determin	ed Upon I	Permit App	roval
		Address	PO Box 8						Addres	s			
			Smithvil	le, WV 26	178					-			
11)	PROPOSED V	VELL W	ORK:	Drill			Drill De		Redril		timulate		
						ld Forma			ate New Forn	nation		Convert	X
10\	0.1.11			Otner			in Well (spe						
12)	Geological tar	3 			Gordo			epth	2,908	_Ft. (Top) to		2,926	Ft. (Bottom)
13)	Estimated der				al dept	h of exist	ing well)	-	3110'	Ft.			
14)	Approximate	water str	ata depths	3:	Fresh		125	Ft.		Salt	1,70	00	Ft.
15)	Approximate	coal sean	n depths:				780	Ft.					VINI
16)	Is coal being n	nined in	the area?			Y	es		X No				10-28-
17)	Virgin reservo	ir pressı	ıre in targe	et formati	on:		60	W -	psig.	Source		Estimate	ed
18)	Estimated res	ervoir fra	acture pres	ssure:			1200		psig.	-			
19)	MAXIMUM P	ROPOSE	ED INJECT	ION OPE	ERATIO	ONS:	Volume per l	our 25 b	bl/hr	Bottom Hole I	ressure	24	100 psi
20)	DETAILED II	ENTIFI	CATION	OF MATE	RIALS								
,	and other cher	nicals as	needed to	maintain	water	quality ar	id improve oi	l recovery.	ADDITIVES			ced water	, bactericides
21)	FILTERS (IF	ANY)		Cartridge	filters	and/or co	al bed filters			Rec	:61,	1	
22)	SPECIFICAT	ON FOR	CATHOL	IC PROT	ECTIO	N AND O	THER CORE	ROSION CO	NTROL	He	, -		
				50.V-0.22.0011 (20.V-0.20) (10.1								50/3	
23)	CASING AND	TUBIN	G PROGRA	AM	r					NC	MI	3	
CAS	ING OR		SPECIE	FICATION	IS		FOOTAG	E INTERV	AT C	CEMENT FI OR SACKS (O	LLID	and C	are to lection
	ING TYPE	Size	Grade	Weight	New	Used	For Drilling		ft in Well	OR SACKS	HE COLL	Oll or Pul	MERS
Cond	luctor							, ,		01/ 5110115 (6	01.01	Kinds	
Fresl	h Water	9 5/8"	LS	32#	X		275'		275'	Use Existing C	asing	Tension	
Coal												Sizes	
	mediate	7	LS	17#	X		1500'		1500'	Use Existing (Casing	2.375" X	4.5"
	uction	4 1/2"	J-55	10.5#	X		3050'		3050'	Use Existing C	asing	Depths S	Set
Tubi		2 3/8"	J-55	4.6#	X		2810'		2810'			2710'	
Line	rs											Perforat	
										-		Top	Bottom
									,				
24)	APPLICANTS	OPERA	TING RIG	HTS were	acquir	ed from	Joe B	Joliffe et al					
	by Deed		Lease	X		her Conti	-	Dated		ry 17, 2010	-	of record	in the
	-		Wetzel			y Clerk's (Lease	Book		Page	392	

05/05/2011 47-103-02648

State of West Virginia **Division of Environmental Protection** Section of Oil and Gas Well Operator's Report of Well Work

Farm name:

HG ENERGY LLC

Operator Well No.: T.J. HIGGINBOTHAM 305

LOCATION:

Elevation:

977'

Quadrangle:

BIG RUN 7.5'

District:

Latitude:

CENTER

1,835 Feet south of

County: WETZEL 39 Deg 37 Min

30 Sec.

Longitude:

11,060 Feet west of

80 Deg 35 Min

0 Sec.

Company Address:	HG Energ PO Box 5 Vienna, V	519	Casing & Tubing	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Inspector:		: Haught				
Date Permit Is	ssued:	06/28/2011				
Date Well Wo	ork Commenced:	06/02/2011]			
Date Well Wo	ork Completed:	07/21/2011				
Verbal Pluggi	ng:					
Date Permissi	on Granted On:		اا			
Rotary X	Cable	Rig	9 5/8"	289'	289'	125 sks
Total vertical	Depth (ft):	3110'				
Total Measure	ed Depth (ft):	3110'				
Fresh Water D	Depth (ft):	150'	7"	1507'	1507'	280 sks
Salt Water De	pth (ft):	None]_			
Is Coal being	mined in ares (Y/N))? No	4 1/2"	3052.05'	3052.05'	150 sks
Coal Depths (ft): x	850'-860'	4 1/2	3032.03	3032.03	150 SKS
Void(s) encou	ntered (Y/N) depthe NONE	(s):				

OPEN FLOW DATA

* Waterflood Producer

Produc	ing formation		Gord			zone depth (ft) 29	12' - 2926'
Gas:	Initial open flow		*	MCF/d	Oil: Initial ope	n flow	*	Bbl/d
	Final open flow		*	MCF/d	Final oper	n flow	. *	Bbl/d
	Time of open flow	between	initial	and fina	l tests	*	Hours	
Static r	ock pressure		*	psig (sur	face pressure)	after	*	Hours
Second Gas:	I producing formation Initial open flow			MCF/d	Pay z Oil: Initial ope	zone depth (en flow	·	Bbl/d
Gas:				•				Bbl/d
	Final open flow			MCF/d	Final oper	n flow	<u>i</u>	_Bbi/d
	Time of open flow	between	initial	and final	tests		Hours	
Static r	ock pressure			_psig (sui	face pressure)	after	<u></u>	Hours
				_			h: *	₩ 1 8 20 13

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

No

Were Y Electrical, N Mechanical, N or Geophysical logs recorded on this well?

NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.

Treatment:

Treated perfs 2912'-2926' w/ 250 gals. 15% HCL,

340 bbls cross linked gel, and 16,600# 20/40 sand.

Well Log: All depths are measured relative to KB (8' AGL).

Shale w/ sand streaks	0	-	850
Coal	850	-	860
Sand/Shale	860	-	1333
sand	1333	-	1366
shale	1366	-	1376
sand	1376	-	1392
shale	1392	-	1446
sand	1446	-	1470
shale	1470	-	1503
sand	1503	-	1566
shale	1566	-	1606
sand	1606	-	1642
shale	1642	-	1672
sand	1672	-	1699
shale	1699	-	1720
sand	1720	-	1766
shale	1766	-	1804
sand	1804	-	1910
shale	1910	-	1995
sand	1995	-	2008
shale	2008	-	2021
sand	2021	-	2032
Big Lime	2032	-	2098
Big Injun	2098	-	2312
shale	2312	-	2879
Gordon Stray	2879	-	2902
shale	2902	-	2908
Gordon	2908	-	2928
shale	2928	-	2940
sand	2940	-	2946
shale	2946	-	3110
TD	3110	-	
T.DLogger	3109	KB	

3110

KB

T.D. -Driller

FRECEIVED

NOV 13 2013

Office of Oil and Gas Protection
Office of Oil and Gas Protection
Office of Oil and Gas Protection

depprivacyofficer@wv.gov

WW-3A 10/07

5) Surface Owner(s) To Be Served



1) Date:		October 2	1, 2013	
2) Operator's We	ell No.	T. J. Higg	inbotha	am No. 305
3) API Well No.	47	103	-	2648
	State	County		Permit
4) UIC Permit N	lo.	UIC2R103	304AP	

STATE OF WEST VIRGINIA
NOTICE OF LIQUID INJECTION OR WASTE DISPOSAL WELL WORK PERMIT APPLICATION
FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

7 (a) Coal Operator

(a) N	Name HG Energy, LLC		Name	NA
Add	dress 5260 Dupont Road	Ad	ldress	
	Parkersburg, WV 26101			
(b) N	Name	7 (b) Co.	al Owner(s)	With Declaration Of Record
Ado	dress		Name	NA
	- 1	Ad	dress	
(c) N	Name		•	
Add	dress		Name	NA
		Ad	dress	
			-	
6) Inspe	ector Derek Haught	7(c) Coa	l Lessee Wi	th Declaration Of Record
Add	dress PO Box 85			NA
	Smithville, WV 26178			
Telep			-	
		•	1/1: 6	1/1 6/11 : . 1
TO THE P	PERSON(S) NAMED ABOVE: You should have	e receive	d this for	rm and the following documents:
(1) The A ₁	pplication for a Liquid Injection or Waste Disposal '	Well Work	Permit of	n Form WW-3(B), which
	at the parties involved in the drilling or other work;			
(2) The pl	lat (surveyor's map) showing the well location on Fo	orm WW-6;	and	
(3) The Co	onstruction and Reclamation Plan on Form WW-9 (unless the	well worl	x is only to plug a well),
which	sets out the plan for erosion and sediment control a	and for rec	amation	for the site and access road.
m1 - 1 - 1	16-41-6-41-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	NIA		
	roposed for the first injection or waste disposal is	NA		a i novina muni i novina i miair
	ON YOU RECEIVED THESE DOCUMENTS IS THAT YO			
	E SUMMARIZED IN THE "INSTRUCTIONS" ON FORM	1 WW-3(A) 1	DESIGNAT	TED TO YOU. HOWEVER YOU
ARE NOT R	EQUIRED TO TAKE ANY ACTION AT ALL.			
Take notice th	nat under Chapter 22-6 of the West Virginia Code, the undersign	ed well opera	tor proposes	s to file or has filed this Notice and
Application as	nd accompanying documents for a Well Work Permit with the Ch	nief of the Off	ice of Oil an	d Gas, West Virginia Department of
	al Protection, with respect to a well at the location described on t			[10] [10] [10] [10] [10] [10] [10] [10]
WW-6. Copies	s of this Notice, the Application, the plat, and the Construction as	nd Reclamati	on Plan hav	e been mailed by registered or
certified mail	or delivered by hand to the person(s) named above (or by publications)	ation in certai	n circumsta	nces) on or before the day of the
mailing or del	livery to the Chief.			
	The person signing this document shall make th	e following o	certificatio	n:
"I contifue unde	er penalty of law that I have personally examined and am	Well Op	orator	HG Energy, LLC
	the information submitted in this document and all attachments			5260 Dupont Road
	ed on my inquiry of those individuals immediately responsible	, man co		Parkersburg, WV 26101
	the information, I believe that the information is true, accurate			
	. I am aware that there are significant penalties for submitting	By:		Diane C. White
	tion, including the possibility of fine and imprisonment."	Its:		Accountant
				RECEIVED
	*			 Office of Qil and Ga
		Signatu	re	Diane Clibite
Oil and Gas P	Privacy Notice			NOV 1.3.2013
The Office of 0	Oil and Gas processes your personal information, such as name,	address and p	hone numb	er, as a part of our regulatory duties.

Your personal information may be disclosed to other State agencies or third parties in the course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have the course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have the course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests.

have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at:

West Virginia Department of Environmental Protection Office of Oil and Gas

NOTICE TO SURFACE OWNERS

The well operator named below is preparing to file for a permit from the state to drill a new well. Before a well work permit can be filed with the Chief of the Office of Oil and Gas, the well operator is required to have given notice of the right to request water well or spring analytical testing. This notice shall be given to the owners or occupants of land which have a water well or spring being utilized for human consumption, domestic animals, or other general use and which is located within 1000 feet of the proposed well site.

With this form, the operator is giving you notice of your right to request analytical testing, The operator is required to sample and analyze the water wells or springs of all owners or occupants who request it. Therefore if you wish to have your water well or spring tested, contact the operator named below.

All sampling shall be completed prior to drilling. Within thirty (30) days of the receipt of such sample analyses the operator shall submit the results to the Chief of the Office of Oil and Gas and to the owners or occupants who may have requested them.

If no water well or spring is located within 1000 feet, the Chief may require the operator to sample and analyze water from a water well or spring within 2000 feet of the proposed well site.

Be advised, you have the right to sample and analyze any water supply at your own expense.

The laboratory used by the operator to analyze the samples will be approved by the Chief. The operator named below has decided to use the following laboratory to analyze the water samples:

X Contractor Nam	e Sturm Environmental Services	
Well operator's	private laboratory	
Well Operator	HG Energy, LLC	_
Address	5260 Dupont Road	_
	Parkersburg, WV 26101	- -
Telephone	304-420-1119	

FOR OPERATOR'S USE ONLY: Below, or on an attached page, list those persons which were given this notice. Place an asterisk beside the one(s) that contacted you and requested sampling and analyses. If there were no requests made, indicate by underlining which one you have selected to sample and analyze. If there are no water wells or springs within 1000 feet of the proposed site please indicate such.

No known Water Supply Sources are located within 2000' of proposed well.



Form WW-9				•	•	••	,,	
Rev. 10/94		•	•	•	•	•		• •

Page 3 of 3

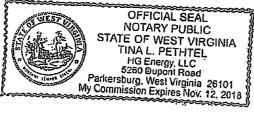
API Number 47- 103 - 2648

Operator's Well No. T. J. Higginbotham No. 305

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS

CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

	nergy, LLC		OF	Code 4944	97948
Watershed Little	Fishing Creek		Quadrangle	Big Run 7.5'	-
Elevation 977'	County	Wetzel	District	Center	
Description of anticipated Pit Wast	c: A pit will	not be used			
Do you anticipate more than 5,000	bbls of water to comp	lete the proposed well wo	rk Yes	No X	
Will a synthetic liner be used in pit	? NA	If so, what mil.?			
Underg Reuse (pplication round Injection (UIC) at API Number	Permit Number m WW-9 for disposal loca	tion)		<u>)</u>
Drilling medium anticipated for thi - If oilbased, what typ Additives to be used? NA	s well? Air, fresh wate		NA		
- Landfill or offsite na	me/permit number? tand and agree to the fice of Oil and Gas of t e enforceable by law. V	Jiolations of any term or	he GENERAL WATE	R POLLUTION P.I.	lerstand
	of law that I have per ments thereto and tha eve that the informati	rsonally examined and ar t, based on my inquiry of on is true, accurate and c	those individuals imr omplete. I am aware t	nediately responsi	ble
Company Official Signature	6	Diane CWA	rite		
)				
Company Official (Typed Name)	·	Diane C. White			
Company Official (Typed Name) Company Official Title		Diane C. White Accountant			
		***************************************		3tary Public	
Company Official Title		Accountant		3tary Public	***



Leger	ıd

	r 	1		1
Property Boundary	A _ A _ A	Diversion	11111111111	
Road	ages then the first the control of t	Spring	○>	
Existing Fence	xxx	Wet Spot	8	
Planned Fence	—/——/—	Drain Pipe	——12——>	
Stream	7	Waterway	\Leftrightarrow \Leftrightarrow \Leftrightarrow	
Open Ditch	>>	Cross Drain	777777777777777777777777777777777777777	
Rock	<i>ૹ૾ૢૺ</i> ૹૢ૽ૢૼૹૢ૾ૺ૱	Filter Strip	XXXXXXXXXX	
		Pit: Cut Walls	Cicinni	
North	N	Pit: Compacted	year of the same o	
Buildings		Fill Walls	- Something	
Water Wells	(W)	Area of Land		
Drill Site	\oplus	Application of Pit Waste		
		J		.1
	Area	I		_
Proposed Revegetation Treatm			evegetation pH	
	Area	II 0.1 Ac.	•	
	Approx.	0.1 Ac.		
Lime	2 Tons/Acre or Cor			
Fertiliz Mulch	rer (10-20-20 or Equivalent) 500 Straw 2 Tons/Acr	·	lbs. Minimum)	
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
	SEED MIX	TURES		
Area	I (Location)	_	Area II (Road)	
Seed Type	Lbs/Ac.	Seed Type	Lbs/Ac.	
Tall Fescue Ladino Clover	<u>40</u> 5	Tall Fescue Ladino Clover	<u>40</u> 5	
Dadino Ciovei		Ladino Ciover		
-		•		
A				
Attach: Drawing(s) of road, location, r	oit and proposed area for land application			
Photocopied section of involve				
Plan approved by:	<u>/</u>		•	
Comments:				
Title: A	1 1 1 1 1 1 1 1		D. (4. 2.5. 5.	baire
Title:	Yes		Date: /0-28-17 PCC	STAGE
Field Reviewed?	(/) Yes	()	No	944 9 ,
			VON	13
			140	

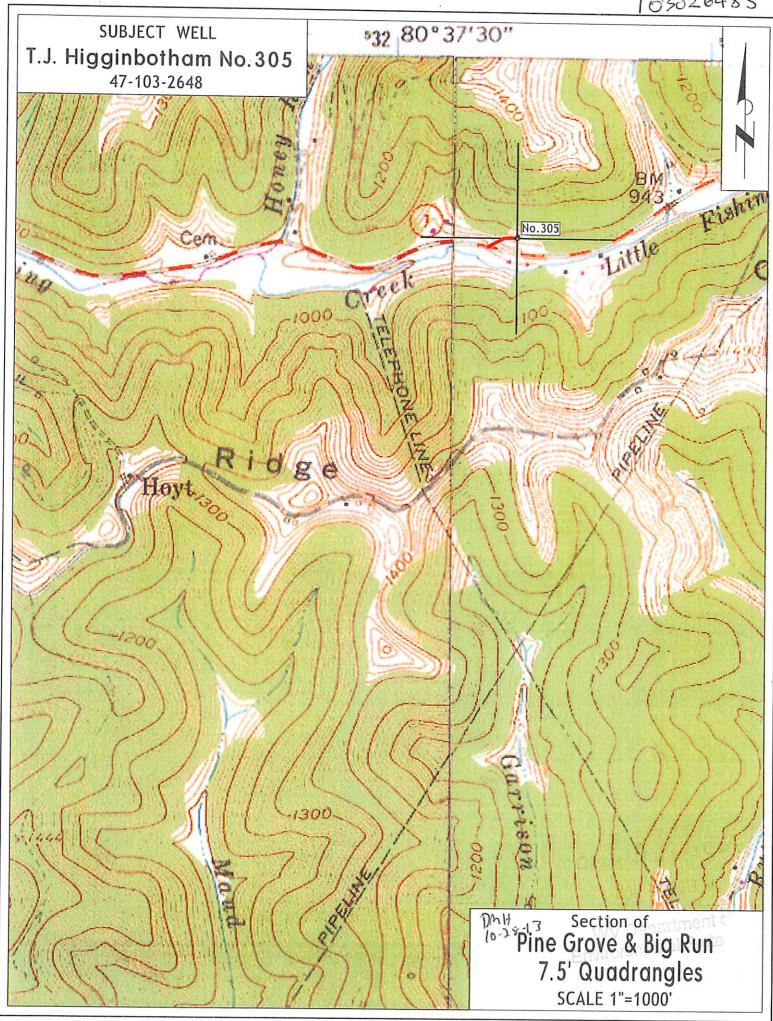
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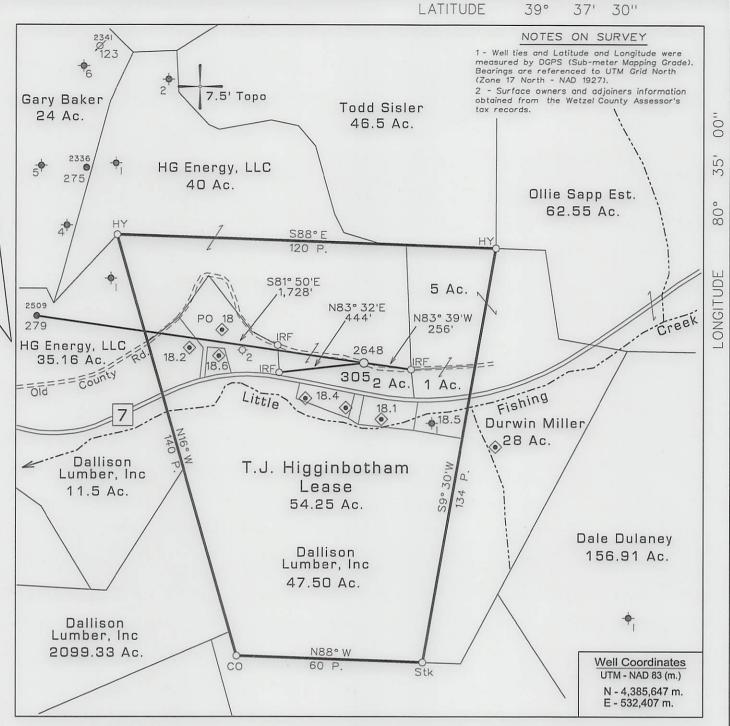
Office of Oil and Gas
Office of Oil and Gas
WW Dept. of Environmental Protection

• All road grades <5% except as noted.

Reclamation Plan For: T.J. Higginbotham No.305 47-103-2648 NOTE: WELL LOCATION WAS BUILT AND RECLAIMED UNDER DRILLING PERMIT NO.47-103-2648. ONLY MINIMAL EARTHWORK WILL BE REQUIRED FOR PROPOSED WELL WORK. ALL DISTURBED AREAS WILL BE RE-VEGETATED AS PER THE SEEDING PLAN ON FORM WW-9. NO WORK-OVER PIT WILL BE REQUIRED FOR PROPOSED WELL WORK. HG Energy, LLC Existing Location 2648 Proposed road follows existing 305 access road to old Co. Rd. 200' of 20-22% Grade Upgrade Existing Road Approach HG Energy, LLC - Surface Stack Brush Below Location for Additional Sediment Barrier W.Va. 10-28-13 S.R. Notes: • Requested permit is for conversion of existing well. NOTE • Access from State Route 7 to well location is REFER TO THE WVDEP existing. Structures will be maintained. **EROSION AND SEDIMENT CONTROL** FIELD MANUAL VER. MAY 2012 FOR • All disturbed areas will be re-vegetated as outlined BMPs CONTROLLING EROSION AND on Form WW-9. SEDIMENT FROM SOIL-DISTURBING Maintain sediment barriers and drainage structures. OPERATIONS.

Note: Drawing not to Scale





- DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

• - DENOTES A POSSIBLE WATER SUPPLY SOURCE LOCATED FROM CIRCA 2003 AERIAL PHOTOGRAPHY - NOT BY SURVEY. OTHER SOURCES MAY BE PRESENT.

1047-03 ___N__ SCALE -MINIMUM DEGREE OF ACCURACY Sub-Meter PROVEN SOURCE OF DGPS Survey (Sub-Meter Mapping Grade)

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGU-LATIONS ISSUED AND PRESCRIBED BY THE DEPART MENT OF MINES.

TIMOTHY P. ROUSH PS 793 THY P. ROLL No. 793 STATE OF SONAL SUR

WEST VIRGINIA

Division of Environmental Protection Office of Oil and Gas 601 57th Street Charleston, West Virginia 25304



October 21, 2013 DATE_ T.J. Higginbotham No.305 FARM API WELL NO.

54.25 Ac

HORIZONTAL LOCATION: ELEVATION ____977' Center Wetzel DISTRICT_ _ COUNTY_ QUADRANGLE Big Run 7.5' HG Energy, LLC ACREAGE 20 Ac. SURFACE OWNER_

OIL & GAS ROYALTY OWNER <u>Joe Jolliffe et al.</u> __ LEASE ACREAGE __ LEASE NO. 107605-00

. CONVERT_X DRILL DEEPER ___ REDRILL __ PROPOSED WORK: DRILL _ FRACTURE OR STIMULATE ___ PLUG OFF OLD FORMATION ___ PERFORATE NEW OTHER PHYSICAL CHANGE IN WELL (SPECIFY) Convert to Liquid Injection

PLUG AND ABANDON_ _ CLEAN OUT AND REPLUG_ TARGET FORMATION __Gordon _ ESTIMATED DEPTH_ WELL OPERATOR HG Energy, LLC DESIGNATED AGENT Mike Kirsch 5260 Dupont Road 5260 Dupont Road **ADDRESS** ADDRESS Parkersburg, WV 26101 Parkersburg, WV 26101